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Declass Review by NGA.

12 May 1967
9618-6
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25X1 [redacted]
P.O. Box 8043
Southwest Station
Washington, D. C. 20024

25X1 Subject: [redacted] Monthly Report, April 30, 1967

Gentlemen:

Enclosed herewith are two (2) copies of the second monthly report for this project (9618), prepared in accordance with the requirements of Specification DB-1001.

Please note paragraph 6.0, Oral Agreements or Understandings Requiring Approval (written).

Three copies (3) of the report are being forwarded directly to the Technical Representative.

25X1

Very truly yours

[redacted]

cc: Technical Representative

25X1

[redacted]

THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE LAWS, TITLE 18 U.S.C., SECTIONS 793 AND 794. ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW.

GROUP 1
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PHOTO INTERPRETATION RAPID COPY VIEWER/PRINTER

SECOND MONTHLY REPORT

DATE TO: April 30, 1967

1.0 Activity During Reporting Period

PROJECT

On April 20, 1967 the contracting office representative visited

25X1 [redacted] Every detail of the program was reviewed. Much of what was discussed has become part of this progress report.

MECHANICAL

Detailing has started in the lens turret and mirror mounting areas. Engineering design continues on the film transport, condenser assembly, condenser drive and film chip platen area. The X traverse for film chips will be motorized rather than manual. The cabinets of the viewer and the printer-processor will be matched in size even though the printer-processor could have its outer skin reduced.

OPTICAL

The projection lenses have been ordered. The design of the condenser lenses is about 90% complete. Calculations have been performed for the depth of focus and depth of field for each magnification using the required resolution figures. The aperture settings have been determined for each lens. The mirror specifications and mirror thickness are being investigated.

The contracting office representative called requesting that the masking not be considered fixed for each chip size but adjustable to accommodate any chip size not smaller than 70 by 70mm and not larger than 9 1/2 by 9 1/2 inches. Non-centering of the film chip could result from the adjustable masks. The roll film masks would also be adjustable. The adjustable masking approach will be investigated during the next report period.

The exposure control is one of the more important areas that was discussed with the contracting office representative. The design goals of the exposure control scheme as it now stands is as follows:

1. Lamp: Use the 1500 watt bulb called for in the proposal.
2. Lamp Voltage Control: Manual setting of lamp voltage control during viewing. The setting should be indicative of the format presented, therefore, the voltage setting, lamp brightness, shall be the same during printing. The lamp shall not be used for any photographic override.
3. Lamp Shutter: Investigate the possibility of a lamp shutter for the exposure of the print. Possibility of the lamp on and off performing the shuttering. Also, possibility of combination of lamp shutter and lamp on and off.
4. Neutral Density Filters: A reduction ratio to drop the viewing light down to an acceptable print light value. This will only be used if the calculations indicate unreasonably fast exposure times. However, there is a good possibility that the use of a diffuser will

serve the purpose of gross light reduction in the print mode. Therefore a mechanism is to be provided which will intersect the condenser light beam and carry provisions for both a diffuser and a neutral density filter.

5. Heat Absorbing Filters: Heat absorbing filters will be mounted in the condenser system. The 45° mirror will be a dichroic "cold" mirror. The heat absorbing filter should be placed between the dichroic mirror and the main condenser lenses.
6. Filter Wheel: No filter wheel will be included.
7. Lens Aperture Setting: The lens apertures shall be set at one fixed opening. An attempt will be made to equalize illumination by the aperture stop setting chosen for each lens magnification. Evenness of illumination will also have an effect on the aperture setting.
8. Lens Shutter: No lens shutters will be used for exposure timing. Lenses will be purchased without shutters.
9. Diffuser: A diffuser plate will be used in the printing mode. It will not be used during viewing.
10. Exposure Metering: A reflection type probe (similiar to those used in photographic enlargers) exposure meter is to be used. It shall integrate the light reflected from the entire print format. The exposure meter information shall be used to time the shutter action. No readout will be available.

11. Exposure Override: A continuously varying dial with 1/2 stop readings to ± 2 stops. A central position will be a factory calibrated expousre setting.

12. Exposure Time: The "less than one second" exposure time is under investigation. It may be necessary to change this requirement to ".5 second to 2 seconds" exposure time range. Many parameters presently under investigation influence the exposure time, however, this area should be finalized before the end of the next reporting period.

ELECTRICAL

Long lead items are being ordered. The main functional block diagram has been started.

PRINTER-PROCESSOR

The design is countinuing with the following percent complete results, the drive 50%, frame 100%, vacuum platen 90%, transport positive paper cassette to processor 50%. Detailing was started in most of these areas.

Trips were made to [redacted] 25X1

25X1 [redacted] Useable parts of the [redacted] "Platemaster" were determined. 25X1

Film information was gained on the [redacted] DTR Process (Diffusion 25X1

Transfer Reversal).

The finished print sandwich will exit at hand height in the center processor-printer rather than lower right hand corner. There is no need for print tray; the operator opens a door and remove

the print sandwich by hand. Edge guides used in the exposure platen will be clear plastic.

1.a. Percentage of Work Complete as of Reporting Date

Better than 20% of the work has been completed as of 4/30/67.

2.0 Planned Activity for Next Reporting Period

MECHANICAL

Continuation of design layout and detailing. The film transport, condenser lens drive and film chip platen should be designed.

OPTICAL

Condenser lens complete. Drawings will be made of each lens and the lenses will be ordered.

ELECTRICAL

Continuation of parts ordering and circuit drawing layout. Finalize control panel.

PRINTER-PROCESSOR

Continue design and detailing of printer-processor.

3.0 Unresolved Technical Problems

3.1 Film Chip Insertion and Masking

3.2 Exposure Cycle Details and Exposure Time Duration

4.0 Unresolved Contractual Problems

None

5.0 Oral Agreements or Understandings not Requiring Approval (Between Contracting Office Representive and Project Manager)

5.1 Leveling casters on printer-processor same as viewer, no shock absorbers.

5.2 Fine focus control knob not in easy access location.

5.3 Magnifications changed slightly but still within tolerance of original proposal.

5.4 Three folding mirrors instead of one.

5.5 Rotating mirror replaced by flipping mirror.

5.6 Optical path length is 75 inches not 54 inches.

5.7 Corner markings for 10 x 10 image.

5.8 Center cross hair 1" by .005" wide.

5.9 Motorized fine focus instead of manual.

5.10 Resolution requirements assumed to be AWAR, some areas lower than others.

5.11 Image Plane Sizes

Magnification	Film Size	Image
2.01X	9 1/2"	Clear area around edge
4.08X	5"	Cut off .050 of edge of film
6.79X	70mm	Clear area around edge
10.48X	1 7/8"	Area on screen
21.97X	7/8"	Area on screen

5.12 Filter wheel is out.

5.13 Neutral density filter is out.

5.14 Possible use of diffuser plate during printing.

5.15 There has been an increase in the number of controls.

5.16 The 10" - 20" pilot light is automatic.

5.17 Exposure platen to have vertical edge guides, made of transparent plastic if possible, not to cover more than 1/2" from each edge.

6.0 Oral Agreements or Understandings Requiring Approval (Written)

6.1 Exposure Time: Request revision of "less than one second", exposure time. Would like to consider ".5 to 2 second range,"

25X1 [redacted] requested.

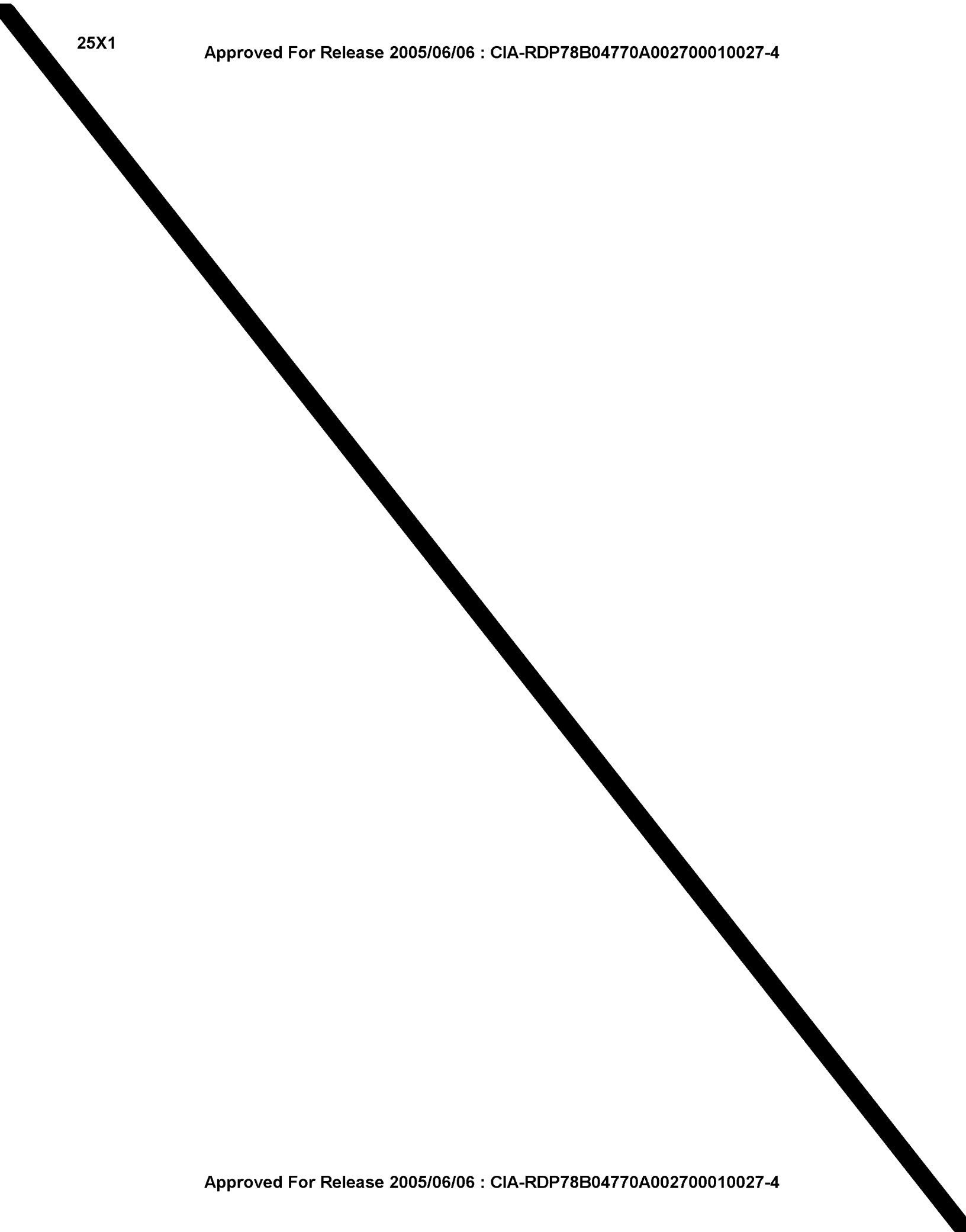
6.2 Film Chip: Use of adjustable masks. Customer requested.

7.0 Unresolved Matters

None

8.0 Status of Funds

See separate sheet.



Approved For Release 2005/06/06 : CIA-RDP78B04770A002700010027-4

*NOTE: Where shown, all expenditures include the appropriate Overhead and/or G&A. The Accrued Fee is shown separately for greater clarity.